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RECREATION ASSESSMENT AND INTERIM MEASURES PLANNED ON THE GIFFORD PINCHOT NATIONAL FOREST TO DEAL WITH THE RECREATION DISPLACEMENT CAUSED BY THE MOUNT ST. HELENS ERUPTIONS

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1. ABSTRACT.

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Recreation Assessment and Interim Measures Planned on the Gifford Pinchot National Forest to Deal with Recreation Displacement caused by Mount St. Helens

The violent eruption of Mount St. Helens in May of 1980 drastically altered traditional recreation activities occurring on the Gifford Pinchot National Forest, state, and private lands in southwestern Washington. This phenomenal geologic event devastated 150 square miles of land area, causing major loss of prime recreation facilities and activities, while creating new educational and interpretive opportunities.

The blast destroyed Spirit Lake Basin, the prime recreation attraction on the Forest, resulting in the loss of 244 camping units, 54 picnic units, and related facilities. In addition to the direct facility losses, the current volcanic activity precludes occupation and use by the general forest user of essentially all of the Mount St. Helens Ranger District. This loss amounts to 184,000 visitor days of use in developed sites, and 296,000 days of visitor use in dispersed areas.

This document describes the interim measures accomplished to date and planned actions to deal with the displacement as Forest users seek substitute locations for their recreation activities.

Interim measures must not pre-empt long-term management options nor conflict with land management allocations. Thus, this document relates interim measures to ongoing planning processes. Key issues, constraints, and basic assumptions about interim measures are stated.

Source documents such as the State Comprehensive Outdoor Recreation Plan (SCORP), Skamania County Recreation Survey, etc., were utilized to assess recreation facility and activity needs.

The nature and extent of facilities and activities lost are analyzed using Forest (RIM) statistical data on visitations to the devastated or constrained areas of the Forest. This step gives insight into the nature of the traditional uses lost and gives an indication of the scope of the recreation displacement that is likely to occur.

Carl Hunts' analysis of the State-wide effects of the volcano on tourism is utilized to indicate future trends. In essence, he concludes tourism in the State of Washington was slightly down in 1980, but followed the national trends in tourism. Factors such as the general recession of the economy, decline in real per capita income, and rapid increase in fuel cost, resulted in this downward trend. Mount St. Helens, on a State-wide basis, was thought to have a negligible effect. However, localized impacts were significant.

Several source documents relating to the effects of high gasoline prices on tourism are reviewed to help anticipate the effects this factor might have on construction and placement of future recreation facilities.

While somewhat subjective, 1980 visitation data is collected at peripheral areas to the Forest to test the premise that recreation substitution is occurring. Data and subjective comments indicate the Columbia River Gorge was the preferred substitution area to residents of Vancouver and Portland. In essence, locations within one hour's drive of these metropolitan populations showed significant increases in visitations. The adjacent National Forests, Mt. Hood and Olympic, indicated increases thought to be directly related to Mount St. Helens displacement.

Analysis of visitation to Forest Service Visitor Centers indicated that approximately 500,000 visitors utilized these facilities. Preliminary findings by Forest consultants indicate the potential for visitation directly related to the volcano would range from 1/2 to 1-1/2 million people, depending on several variables. Interim measures to handle this visitation demand are displayed.

Utilizing a Koepner-Tregoe (K-T) decision analysis process, ten criteria are utilized to evaluate which of the existing sites outside the Forest closure should be considered for expansion to accommodate displaced traditional recreation activities (camping, picnicking, hiking, climbing, etc.). The criteria developed support basic issues and concepts discussed in this document.

The relationship of the timber salvage program to interim recreation measures is evaluated to anticipate potential traffic management problems.

Finally, a brief discussion is made of potential recreation facilities that are likely to be built in the next five years by various agencies and private institutions. This is an attempt to give a general picture of future recreation suppliers. This section will be expanded as the recreation tourism task group completes their assessment process.

2. INTRODUCTION.

On May 18, 1980, Mount St. Helens erupted, devastating 150 square miles of beautiful and productive National Forest, state, and private lands in southwest Washington. National and international media coverage gave reality to this human drama and changing landscape. Mount St. Helens became a household word, and conjured up keen interest in the scientific communities, political entities, and those directly affected by the social and economic impacts of this event.

Spirit basin, north of the volcano, was instantaneously transformed from a beautiful mountain lake setting to a primeval scene of boiling water and mud, escaping gas plumes, and a landscape devoid of vegetation. For the time at least, this unique recreation setting is unavailable to the thousands of visitors that once enjoyed the attractive mountain terrain.

One of the many issues facing the Gifford Pinchot National Forest is how to deal with this unique recreation attraction created by the phenomenal geologic event, as well as developing a plan to handle the displaced traditional use that was occurring in the Spirit Lake basin.

The purpose of this document is to evaluate the nature of the recreation losses in terms of facilities and activities, and chart a course of action to handle the displaced forest users as they seek substitute recreation experiences.

Interim measures are a must to deal with the known and anticipated impacts. However, it is critical that facility development or expansions be cost effective and not pre-empt viable, long-term management options. It it imperative that the Forest plans are coordinated with other resource agencies, at Federal, state, and county levels so that collective actions complement each other where possible.

No comprehensive study of the State-wide effects on recreation and tourism exist in a single document, rather, numerous individual efforts each adding a piece to the puzzle are scattered throughout research papers and agency reports. Thus, this document explores several of the sources in developing interim recreation measures proposed for the Gifford Pinchot National Forest.

3. KEY ISSUE AND CONSTRAINTS.

The major factor in determining what facilities should be constructed and where activities should be resumed is that of public safety related to the volcano.

According to U.S. Geological personnel, the mountain is still in an explosive phase (USGS Hazard Report). Periodic eruptions can be expected as the dome in the north face of the mountain continues to rebuild and grow. A great deal has been learned on how to monitor the mountain and understand its signals. However, the possibility always remains that it can erupt without prior warning. Thus, all planned activities must consider this possibility.

Past geologic events and current theoretical calculations indicate rock fragments can be lethal at distances up to 12 miles should an explosive vertical eruption occur. Ash deposits in the past have left 40 inches of materials at distances up to 20 miles from the mountain. While the probabilities of these events may be low, the May 18 eruption and blast is vivid reminder of the necessity to take proper precautions to assure public safety.

The innercore area, a radius of approximately 12 miles (Red Zone), is open only to essential missions and precludes the general public at this time. Based on current hazard assessments, a second zone which radiates out to approximately 20 miles (Blue Zone), has been established to allow for contract activities. Thus, logging is permitted, as long as all operations meet safety criteria.

General forest users are permitted normal access beyond this 20 mile radius, but are cautioned that heavy ashfall is still a possible risk.

The Forest expands or contracts the size of the closure area based on the hazard analysis conducted by the U.S. Geological Survey personnel.

4. BASIC ASSUMPTIONS.

In developing an interim plan, the following basic assumptions were made:

1. There is a new demand related to scientific, educational, and interpretive areas generated by the active volcano.

2. Public safety will be a major factor in future siting of facilities and the re-establishment of recreation activities.

3. Interim measures will not consider public activities within the current Red Zone and severely limit public options in the Blue Zone

4. Interim measures planned will generally be outside the current St. Helens Unit Plan.

5. Increased visitation will occur on the periphery of the National Forest as forest users seek substitute recreation areas.

6. Recreationists within the local market area will seek to achieve their recreation closer to home as gasoline costs escalate.

7. Traditional recreation uses such as camping, picnicking, and driving for pleasure will change on the Gifford Pinchot National Forest as a result of the active volcano.

5. RELATIONSHIP OF THIS PLAN TO ON-GOING PROCESSES.

Forest Plan - The Gifford Pinchot National Forest has begun work on the Forest Land Management Plan in accordance with the National Forest Management Act. Draft environmental statement is scheduled for publication in December of 1982. This is a comprehensive, interdisciplinary plan which involves the entire Forest. All resource plans will be brought into conformance with this Forest Plan.

USFS - Mount St. Helens Unit Plan - Due to the extraordinary resource, social, economic, and environmental impacts created by the volcano, the Forest developed the Mount St. Helens Unit Plan to establish direction for dealing with the many complex issues. Ultimately, this unit plan which encompasses 268,910 acres, of which 148,030 are National Forest, will be brought into conformance with the Forest Plan scheduled for December 1982. The draft unit plan was issued publicly on January 30, 1981, with public reviews planned during the month of March 1981. Eight alternatives have been developed (Mount St. Helens Land Management Plan, January 30, 1981).

The Executive Land Use Task Force, State of Washington - Governor Ray appointed a land use task force group in July 1980. This technical group was established to develop land use alternatives. Much of the Gifford Pinchot National Forest land use data base was utilized, along with state, county, and private information to develop land use alternatives. The area involved is the same as that incorporated in the Mount St. Helens Forest Plan being developed by the U.S. Forest Service. Five alternatives were developed by this group which is composed of principle landowners with industrial timber holdings and the State Department of Natural Resources. The land use alternatives proposed by the technical group are intended to complement the Forest's EIS and not replace it (Mount St. Helens Organization Report, Executive Land Use Task Group, December 1980).

The public review task group took two of the above alternatives, plus one alternative representing the Mount St. Helens Protection Association, to present to the general public. Public review meetings will be held in February 1981 by the public review task group. They will return a preferred land use alternative to the executive group. By mid-April, a preferred land use alternative will be presented to the governor.

Mount St. Helens Recreation and Visual Assessment Contract awarded to David M. Dornbusch and Company, Inc. - On September 26, 1980, the Forest awarded a recreation and visual assessment contract to David M. Dornbusch and Company. The study includes an area previously known as the Green Spirit Planning Unit plus an addition in the Clearwater Creek drainage to the east. (Gifford Pinchot National Forest - project: Contract No. 53-05K3-0-04505a, R6-3-80-139n.)

The intent of the contract is to provide general development direction within the study area related to facility development, interpretive opportunities, protection of unique natural resources, and possible recreation development suitable for private enterprise.

The study shall be directed to answer the following questions:

A. Recreation/Interpretation Use Demand Projections: Provide in numerical and graphic form the expected recreation use demand through the year 2000 and the expected origin of users on a local, regional, and national basis. Determine the expected major recreation activities sought by users now and during the planning period, including both winter and summer activites. Array activity opportunity demands by recreation opportunty spectrum (ROS) class and show in five-year increments. Determine the kind of experience and activities that will encourage people to explore and understand Mount St. Helens event compatible with user safety and resource protection.

B. Land Capability and Development Suitability: Map the recreation opportunity spectrum classes and determine land capability for recreation. Rate high, medium, and low attractions. Determine potential use levels and ranges of use without man-made improvements.

Determine land suitability for development to accommodate various recreation interpretation activities.

C. Analysis of Opportunities: Identify and analyze in writing and graphically display the relative compatibility of feasible recreation uses and make recommendations for mitigating conflicts. Assess the visual quality within the study area.

D. Development of Alternatives: Evaluate general recreation market, forest recreation opportunities, and local and national social needs to develop at least three alternative long-range goals for recreation and interpretation within the study area. Describe the relationship of ROS classes to these alternatives.

Design and map recreation development strategies related to ROS classes as a base, that would respond to each alternative goal for the next ten years and quantify.

Indicate facilities and activities related to Mount St. Helens which can best be recommended outside the study area.

Describe how the proposed uses should be developed to meet projected demand. Include recreation activities and education programs which recognize uniqueness of Mount St. Helens.

Describe outputs, costs, and environmental effects of each alternative.

Illustrate the opportunity for cooperative efforts for services, programs, and facilities, both private and other agencies.

Examine long-term recreation transportation needs and graphically display vehicle and pedestrian circulation patterns for each alternative.

E. Recommend a Recreation Alternative: Analyze alternatives by selection criteria and recommend a plan with development schedule. Also, develop guidelines for plan implementation so that development will be consistent with other resource uses.

F. Development Plan: The contractor shall design and prepare a general development plan for the study area. The plan shall include conceptual transportation system, land management boundaries, section lines, contours, lakes, streams, and other important site features, and significant, above-ground, man-made facilities.

The consultant's work has been shared with the Forest Interdisciplinary Team working on the Mount St. Helens Unit Plan as it is being formulated. Thus, the land use management unit plan process has had access to the contractor's work. Upon completion of the contract, this information will be incorporated in the data base to be used in future land management planning processes. The consultant's work is to be completed by April 1981. This work has been reviewed and considered in developing this interim forest plan for dealing with recreation displacement.

For example, user demands, hierarchy of visitor centers, potential travel corridors, nature of the activities displaced, have been important considerations in this interim plan. Some of the consultants preliminary work is contained within this document and is so identified.

The consultant's work has been shared with other agencies and private institutions throughout its development. The open process they have utilized has allowed for much greater participation in identification of issues, concerns, ideas, and approaches. The state recreation and tourism task group has had an opportunity to keep current of the consultant's findings and ideas.

Recreation and Tourism Task Group: This working task group was established to deal with the short and long-term recreation and tourism issues and concerns. It has a broad base of representation from nearly all recreation entities at county, state, federal agency levels, as well as excellent participation from private recreation suppliers. This groups is preparing, on a State-wide basis, for the anticipated recreation and tourist demands that will likely occur the field season of 1981.

A conscientious effort is being made to inventory all facilities lost in the May 18 eruption. A comprehensive listing of facilities that will be available is being developed so that tourists can be directed to suitable locations that meet their recreation needs. Task group members are also developing a list of facilities that are planned by the respective organizations and agencies in the foreseeable future. This data will help assess the potential increase in recreation supply.

County and recreation planners in the adjacent four counties to Mount St. Helens have been very active in this process. This is essential as recreation and tourism needs will affect many aspects of the counties' responsibilities such as road maintenance, law enforcement, and sanitation. This inventory is currently being compiled and should be completed by February 20, 1981.

Resource Plans - Other forests' resource plans were considered in this report; e.g., the Final Environmental Assessment for the Mount St. Helens Volcano Timber Salvage. This plan was an interdisciplinary effort and describes the scope, nature of the harvest, mitigating measures, environmental considerations, and constraints necessary to remove the damaged volume. Of particular significance to the interim recreation direction is the traffic flow related to this salvage. Coordination of traffic flows, as they relate to recreation activities, will be dealt with later in this report. (Mount St. Helens Volcano Timber Salvage, Gifford Pinchot National Forest, January 14, 1981.)

6. DIRECTION AND ASSESSMENT.

National Forest Recreation Direction - Increasing emphasis is being placed on meeting recreation demands closer to metropolitan areas. This is an effort to be more responsive to larger populations, as well as recognize the effects energy constraints will likely have on recreation resources. Thus, facilities, such as campgrounds and trail developments, should be accomplished where there is a longer season of use and closer proximity to populations.

Dispersed recreation is emphasized so as to provide a variety of recreation experience levels. Generally, dispersed recreation is cost effective, requiring less front-end capital investment as well as reduced long-term maintenance dollars.

New facility development and/or expansions of existing facilities need to be carefully reviewed in light of their cost/benefit ratio. A recent publication by the Pacific Northwest Research Station entitled, "Planner's Guide for Estimating Costs per User Day of Proposed Recreation Facilities," provides an analytical approach to this important consideration. Emphasis is also being placed on more cost effective ways to transport the users to the recreation sites or activities.

Oregon State University (Advisory Task Force, December 18, 1980 Letter) - Key points developed by this advisory task force group regarding the decade of the 80s were:

1. Recreation will be operating in a survival mode during this period. Professional recreation people will be increasingly pressed to provide increasing and changing services with less money.

2. Presently, there is a shift in behavior toward one tank of gas (or less) destination, increases in the length of stay, and a change in the preferred activities to those that are less expensive. For example, the switch of some from downhill skiing to cross-country skiing.

3. Recreation management must be treated on a more business-like basis with closer scrutiny of costs and benefits.

4. Be responsive to energy constraints and changing recreation demands.

5. Private/public cooperation in contracting for services will become more important.

Washington State Comprehensive Outdoor Recreation Plan (SCORP) - The State SCORP plan, revised October 1979, is designed to show the relationships of the physical resources and capabilities to current and future recreation needs. As the title implies, it is comprehensive in nature and involves inventorying, evaluation and assessment, and proposing actions to conserve and develop

Washington's outdoor recreation resources for the continued utilization and enjoyment by present and future generations.

Of particular significance to this interim plan are the following goals:

1. To achieve a balance of recreation services and facilities between government levels and agencies, and between the public and private sector.

2. To encourage wise and efficient energy use for recreation.

3. Provide adequate outdoor recreation opportunities for physical and developmentally disabled citizens.

Table I summarizes the comparitive, unsatisfied activities facilities needs that were identified in the outdoor recreation survey based upon assessment of state, private, and federal inventories. The majority of the forest lies in planning area 5, which includes Mason, Lewis, Thurston Counties; and area 6, which includes Wahkiakum, Clark, Cowlitz, Skamania, and Klickitat Counties. Counties underscored are the principal ones affected by the volcano and subsequent displacement.

Table I. Summary of Activity/Facility Needs[1]

Activity	State-wide	Planning Districts 1	2	3	4	5	6	7	8	9	10	11	12	13
Swimming-outdoor pool	3	4	1	1	3	1	1	4	4	4	2	2	4	2
Swimming-beach	3	4	1	3	3	3	1	4	4	4	3	4	1	2
Boating	3	4	3	4	3	2	2	3	1	4	2	4	2	2
Visit Beach/ Beachcombing	*													
Fishing-From Bank	*													
Nature Study	*													
Food Gathering	*													
Gardening	*													
Walking/Hiking	4	4	1	4	3	4	2	4	4	1	1	4	3	1
Camping	4	4	4	3	3	4	2	4	3	4	1	4	4	1
Picnicking	4	4	3	4	4	4	3	4	4	4	4	4	4	4
Downhill Skiing	4	2	1	4	4	1	2	4	4	1	1	1	3	1
Cross-County Skiing	4	4	4	4	2	4	4	2	1	1	1	4	1	4
Snowmobiling	2	1	1	2	2	1	1	2	2	1	1	4	1	1
Motorcycling	3	1	1	1	2	4	4	4	1	1	1	4	1	4
4-Wheel Drive	1	1	1	2	1	1	1	1	1	1	1	4	2	1
Horseback Riding	4	4	2	3	1	2	4	4	4	1	1	4	2	2
Driving for Pleasure/ Sightseeing	*													
Bicycling	1	1	3	2	2	1	1	1	1	1	1	1	3	1
Hunting	*													
Shooting	4	3	2	3	4	1	1	4	1	3	1	2	1	3
Field Games	3	4	2	2	4	2	3	4	3	4	4	3	3	2
Tennis	3	3	2	3	4	2	1	4	4	4	4	1	4	2
Other Court Games	2	1	2	2	3	1	2	3	2	3	4	1	1	2
Playground Activities	4	4	3	3	4	3	3	4	4	4	4	4	4	2
Jogging	*													
Golf	3	4	4	3	3	3	2	4	2	4	3	1	3	3
Attend Sport/ Cultural Event	*													

*Not compatible with a quantitative analysis.

[1]

% Unsatisfied	Code
76 - 100%	1
51 - 75	2
26 - 50	3
0 - 25	4

Source: Washington State Outdoor Recreation Plan (October 1979), page 11.7.

Activities common to both Planning Districts 5 and 6 which were either coded 1 or 2, indicating 51 percent to 100 percent unsatisfied activity or facility needs, are listed below: (Note:

Only activities normally associated with the forest environment have been included).

Swimming Beach
Boating
Downhill Skiing
Snowmobiling
Four-Wheel Drive

In addition to the above, area 6 indicates needs in walking and hiking activities, as well as increased camping facilities. The above needs were identified prior to the eruption of Mount St. Helens which further compounds the nature of the loss and the need on a county basis for these activities and facilities.

Skamania County Park and Recreation Survey (June 1980) - Skamania County residents received a recreation questionnaire so that the county officials could update the park and recreation composite recreation plan. This document relates primarily to county facilities/activity needs, however, it contains useful information to the Forest and is considered in this interim recreation plan.

It confirms that fishing, hunting, and activities associated with these, such as camping, hiking, etc., are the most sought after pastimes within the county. Particular emphasis was placed on programs which would make hunting and fishing more enjoyable and productive.

The majority of residents were willing to travel at least 15 miles to enjoy recreation day use activities. This clearly places the adjacent forest land within their travel preferences.

It was interesting to note that 75 percent of respondents indicated that they would participate in organized recreation activities. While this data confirms the need for park and recreation programs, it might also have important implications to forest programs where energy efficient transportation methods could be utilized to take city users to the forest. Of the 541 responses received, 67 and 60, respectively, responded to preferences for off-road vehicle and horse riding activities.

7. MARKET AREAS.

The majority of the Forest lies in four counties; Cowlitz, Clark, Lewis, and Skamania. Collectively, these counties have a combined population of approximately 315 thousand people in 1979. Projections for the year 2000 are estimated at 537 thousand. Cowlitz county has experienced the fastest growth during the past 20 years, and is likely to continue at a faster rate than the other counties. (Mount St. Helens Land Management Plan, January 1980.)

Within the Vancouver/Portland metropolitan areas, as well as the Columbia River gorge populations, there is approximately 1.2 million people which is anticipated to grow to 1.4 million by the year 2000. Seattle, Tacoma, Olympia, Salem, and Eugene, collectively add another 4 million people which are within a 2 to 5 hour driving distance of the Gifford Pinchot National Forest. (A Special Place - Columbia Gorge Urban Outreach, Mt. Hood National Forest, 1980.)

The Gifford Pinchot Forest hosted 1.2 million visitor days of recreation activities in 1979 prior to the volcano. Due to the vast area closed (approximately 1 million acres in 1980), Forest use was considerably down due to the unavailability of additional recreational areas. It is the assumption of this plan that traditional recreational use visitation outside of the Forest closure area will exceed past visitation use.

Visitation to the volcano visitor information centers at Ridgefield on Highway I-5 and Lewis and Clark approximately 1-1/2 miles south of Highway 12, indicate a strong demand for volcano related education and interpretive facilities.

Portland State University conducted a study during the summer of 1980 to determine the impacts of volcano ashfall on travel behavior. Their intent was to see if the volcanic ashfall travel related behaviors might offer some simularities to a major oil embargo. While there thesis did not support this contention, they did arrive at some interesting recreation related data. Using focus group interviews, they found that travel behavior patterns returned to near normal a short time after the eruption with the exception of destination recreation trips. A large segment of the population in Vancouver indicated they made frequent day use of the Gifford Pinchot National Forest in and adjacent to Mount St. Helens area prior to the eruption. Typically, their day use occurred east and northeast of Vancouver. They indicated the use of the Forest as a recreation outlet was an important part of their lifestyle. In fact, several indicated the proximity to the Forest was a major consideration in their locating in Vancouver. (Impact of Volcanic Ashfall on Travel Behavior, P.S.U., October 1980.)

Thus, it appears there are two distinct market areas. Those living within 1 to 4 hours of the Forest, and those that are going to destination sites.

8. SHORT-TERM ECONOMIC CONSEQUENCES OF MOUNT ST. HELENS VOLCANIC ERUPTION ON TOURISM.

State-wide Impact - This section deals with the short-term economic consequences of Mount St. Helens eruption in the State of Washington as it affected tourism.

Preliminary findings indicate that the State of Washington had a moderate decline in tourism. The decline followed National trends and was not directly attributable to Mount St. Helens. Overall, Mount St. Helens had a negligible effect on tourism on a state-wide basis. Revenues in the tourist industry are sensitive to changes in income and fluctuations in the price of gasoline. These factors have changed the pattern of tourism and indicated a decline in tourism during 1980 with or without Mount St. Helens (Carl Hunt, Tourism Impacts of the May-June 1980 Eruptions of Mount St. Helens, 1980).

Prior to the volcano, the months of March and April indicated a somewhat downward trend in tourism, comparable to National averages reflecting the general recession, increased cost of fuel, and related travel, and a small decrease in per capita income.

Certain areas of the state, such as the four counties adjacent to Mount St. Helens and areas such as Yakima and Spokane, were adversely affected during the eruptions. Tourism in general suffered a short fall during the months of May and June, 1980. In some areas of the state, it was down approximately 12 percent while Yakima and Spokane experienced a 40 percent falldown (Maquire, 1981). Portland and Vancouver had major cancellations in conventions because tourists perceived the area to be unsafe. A major media campaign was developed to dispell unfounded images concerning Yakima, Spokane, and the Portland-Vancouver area. These media campaigns were very successful in reversing the trend and showed a major plus increase in the month of August.

August sales, in general, were increased state-wide and were up by approximately 8 percent. When adjusted for inflation, this showed a real increase of approximately 2 percent. Factors such as real per capita incomes, discretionary spending power, and the rise in gasoline costs, seem to have the greatest influence on a state-wide basis.

A recent study of the Department of Commerce and economic development indicates there is a high degree of correlation between park attendance in the State of Washington and real per capita income and gasoline prices (refer to Table II on Visitation at Selected State Parks, Real Per Capital Income, Index of Gasoline Prices, 1969-1979 - Hunt, 1980).

Table II

Visitation at Selected Washington Parks, Real Per Capital Income, Index of Gasoline Prices, 1969 - 1979

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Coulee Dam	875.1	652.9	424.0	450.3	431.3	578.5	499.5	646.5	741.4	716.5	799
Fort Vancouver	104.8	163.4	207.2	245.9	138.7	180.2	282.4	311.5	248.4	224.1	203.6
Mt. Rainier	1,795.2	1,925.1	1,742.6	1,642.4	1,528.2	1,495.5	1,521.3	1,521.3	1,972.3	2,437.3	1,981.4
North Cascades	—	295.0	216.3	552.3	872.4	885.3	869.1	769.3	689.7	931.4	765.1
Olympic	2,135.9	2,283.1	1,859.7	3,031.7	2,817.0	2,479.3	2,654.6	2,672.5	2,658.9	2,996.6	2,587.4
San Juan	26.3	42.6	47.6	71.8	71.3	68.3	64.1	71.9	61.7	76.4	92.4
Whitman Mission	105.5	89.0	104.8	92.3	104.5	125.7	113.6	152.9	120.6	106.5	119.9
TOTAL 1/	5,042.8	5,451.1	4,602.2	6,126.7	5,963.4	5,812.8	6,004.6	6,596.9	6,958.0	7,145.8	6,550.8
Real Per /2 Capita Income	$3,578	$3,588	$3,575	$3,805	$3,990	$3,992	$4,044	$4,232	$4,264	$4,406	$4,320
Gasoline /3 Price Index	104.7	105.6	106.3	107.6	118.1	159.9	170.8	177.9	188.2	196.3	265.6

1/Source: National Park Service, Pacific Northwest Field Areas
2/Source: U.S. Department of Commerce, Bureau of Economic Analysis, using 1967 = 100
3/U.S. Department of Energy

CH:5.6/37

Thus, selected park attendance was used to analyze trends in tourism. Park visitations were chosen because they directly measure a tourist activity. People visiting state and national parks are likely to engage in normal tourist activities such as renting motel rooms, eating, buying gas, etc. Factors that affect park visitations are similar to those affecting the tourist industry.

With a decrease in real per capita income from 1979 to 1980 of approximately 1.2 percent in the State of Washington, and an increase in gasoline of approximatey 41 percent, their study predicts a 14 percent decrease in park attendance for 1981.

Washington State follows a National trend in regard to reduced recreation travel. A general change in tourism to the National Parks became evident in 1978 through 1979. Tourism rose from 262 million visitors to 283 million visitors from 1977 to 1978. However, visitations from 1978 to 1979 decreased by approximately 1 million collectively.

An important finding was that the decrease in use was not evenly spread amongst the states. High population states, such as California, Michigan, and New York, decreased at a lesser rate than did less populated states such as Oregon and Washington. The latter states decreased approximately 14 percent in 1979.

Thus, park attendance near populated areas is increasing while park attendance in remote rural locations is decreasing. Numerous studies support the contention that, as price of gasoline increases, this trend will continue as visitors seek more cost effective recreation substitutions.

9. OUTDOOR RECREATION TRAVEL, FUEL COST, AND DISCRETIONARY INCOME.

Annual U.S. highway travel in the past ten years, 1969 through 1979, has increased approximately 500 billion vehicle miles. Downward trends have been reflected only twice following the 1973 oil embargo and again in 1979 when the fuel availability was limited and price made a rapid increase (refer to Table III, Annual U.S. Highway Travel, 1969-1979).

Table III - Annual U.S Highway Travel, 1969-1979

Year	Billions of Vehicle Miles	Percent of Change from Previous Year
1969	1,062	-
1970	1,110	4.5
1971	1,179	6.2
1972	1,260	6.9
1973	1,313	4.2
1974	1,281	-2.5
1975	1,328	3.7
1976	1,406	5.9
1977	1,471	4.6
1978	1,548	5.3
1979	1,525	-1.5

Source: U.S. Department of Transportation, Federal Highway Administration, 1980, Highway Travel Trends During the 1970's

Washington generally followed the National trend. In 1979, the cumulative total annual vehicle mileage was 29.122 billion miles. In 1980, the downward trend continued with 28.696 billion miles being estimated by the Washington State Department of Transportation, for a net decline of 1.5 percent (refer to Table IV).

Table IV. Comparison of 1979-1980 Washington State Annual Vehicle Miles (source: Washington DOT)

Annual Vehicle Miles (Billions)

Month	1979 Monthly	1979 Cummulative	1980 Monthly	1980 Cummulative
January	2.136	2.136	1.981	1.981
February	2.177	4.313	2.077	4.089
March	2.428	6.741	2.299	6.357
April	2.414	9.155	2.346	8.703
May	2.431	11.586	2.368	11.071
June	2.545	14.131	2.499	13.570
July	2.640	16.771	2.695	16.265
August	2.578	22.201	2.562	21.705
September	2.578	22.201	2.562	21.705
October	2.459	24.660	2.513	24.218
November	2.316	26.976	2.300	26.518
December	2.146	29.122	2.178	28.696

Travel in eastern Washington was heavily disrupted by the May 18 eruption and showed a 6.8 percent decrease from May 1980 compared to May 1979. SR 20 was closed from May 18 through 24, and SR 12 over White Pass was closed from May 18 through May 22 due to ash problems. Highway I-5 was closed three times on May 18 related to flood alerts. Counters in the northern part of the state showed large increases in volume as motorists used SR 20, north cross-State Highway and SR 2, Stevens Pass, as alternate routes (PTR reports, May 1980.

Recreational use was above normal on the Olympic Peninsula and down in southwest Washington related to the volcano. Eastern Washington showed the effects of the eruption with substantial reduction in highway travel in the months of June and July.

Highway travel on the northern portion of the Forest along Highway 12 in the Packwood area was substantially affected due to severe ash problems early, and perceived traffic problems later. However, in October, a major reversal was seen as the month ended with a 6.7 percent increase of travel over 1979 base data. This was the result of unusually heavy hunter concentrations in the Packwood area.

Highway traffic on Highway SR 5, approximately 12 miles north of Vancouver at Ridgefield, showed substantial increases over 1979 and varied from 1.1 percent in July to 12.2 percent in October (refer to Table V, Permanent Recording Sites at Packwood and Ridgefield).

Table V. Permanent Recording Sites at Packwood I-5

Month	Location	Seg.	M.P.	Ave. Day of the Month 1980	1979	Relation to 79 this Mo.
May	SR 12 Packwood	E	138.61	766	1,184	-35.3%
		W	138.59	911	1,405	-35.2%
June	SR 12 Packwood	E	138.61	819	1,499	-45.4%
		W	138.59	1,093	1,747	-37.4%
July	SR 12 Packwood	E	138.61	1,365	1,787	-23.6%
		W	138.59	1,598	2,222	-0.2%
August	SR 12 Packwood	E	138.61	1,742	2,034	-14.2%
		W	138.59	2,014	2,422	-16.8%
Sept.	SR 12 Packwood	E	138.61	1,315	1,560	-15.7%
		W	138.59	1,540	1,904	-19.1%
Oct.	SR 12 Packwood	E	138.61	1,089	1,021	+6.7% (Reversal)
		W	138.59	3,178	3,201	-0.7%
Nov.	SR 12 Packwood	E	138.61	950	901	+5.4%
		W	138.59	1,223	1,341	-8.8%

Large decreases in traffic were recorded in May and June in the Packwood area due probably to motorists reluctance to use these routes because of ash related problems.

May	SR 5 Ridgefield	N	23,929	24,395	-1.9%
June			24,853	26,941	-7.8%
July			30,131	29,804	+1.1%
August			34,090	32,449	+5.1%
Sept.			30,009	28,241	+6.3%
Oct.			27,441	24,467	+12.2%
Nov.			27,543	25,220	+9.2%

No permanent traffic counters are utilized on Highway 14 in the Columbia River Gorge area. However, persons familiar with traffic patterns and flows, estimate near-normal traffic in the gorge or a slight trend for reduced travel comparable to the State-wide falldown of 1.5 percent. Map 1, traffic flows for the State of Washington for 1979, gives an overview of a normal traffic flow pattern that occurred that year (Appendix).

Portland State University conducted a study on the impacts of volcanic ashfall on travel behaviors during the summer of 1980. In conducting this study, they found that recreationists were developing search patterns to find alternate areas or activities to replace those that were lost in the volcanic blast. Using focus group interview methods, many people from the Vancouver area indicated they were going south and west or utilizing the Columbia River Gorge as substitute recreation locations.

In Yakima, Washington, approximately 20 percent of the people interviewed indicated they were substituting indoor sports, such as bowling, to get out of the ashy conditions. A few decided to take long trips they had been planning for years to escape the ashfall problems.

A roadside questionnaire was developed and utilized by the Washington State Department of Transportation this past summer at three locations within the state: one at Blaine near the Canadian border, one near the Idaho border on I-90, and one locally at Ridgefield, Washington. Their purpose was to monitor recreation travel in Washington to look for future trends, as well as to assess the possible effects Mount St. Helens would have on future tourist travel.

An attempt was made to eliminate day use travel from the sample. At Ridgefield, Washington, approximately 20 percent of the travelers indicated they were traveling related to Mount St. Helens. An attempt was made to see how increasing gasoline prices might deter future travel to Washington. The results of this inquiry will be published soon so exact figures are not available at this time. However, their findings tend to support a Utah State University study concerning gasoline prices and their relative effect on tourism.

Based on current gasoline prices, the largest percent of people indicated they would not be deterred from coming to the State until the gasoline price exceeded $2.00 per gallon. Even at $3.00 per gallon, the majority of people would continue coming to the state to see the event. Thus, the attraction is likely to bring a sizeable number of tourists even though gasoline prices are rapidly escalating (Tom Hanastra, Washington State Department of Transportation, Olympia, Washington - January, February 1981).

The more intensive study will be conducted during the spring and summer of 1981 involving roadside questionnaires and a telephone survey of in-state residents.

Projected fuel costs indicate significant increases over the next 20 years. The average pump price in 1975 in Oregon was .56 cents per gallon. Oregon Department of Transportation projects a 20 percent increase in 1981 and a 15 percent increase until gas reaches $3.61 per gallon by the year 1987. Gasoline prices are expected to moderate in the 1990s, having a 7.7 percent annual rise. (Pacific

Northwest River Basins Commission, Appendix - Recreation Demands in King and Snohomish Counties, Alternate Energy Scenarios, August 1980.)

Fuel efficiency, conservation, alternative sources, and increasing personal income will help moderate this influence. Gasoline will increase in price at a more rapid rate than other prices in the general economy. Consequently between 1975-2000, gasoline prices in real terms are estimated to increase 1.75 percent per year.

Recreation managers need to be aware of this impact when developing their recreation plans. The general public has experienced short allocations of gasoline with the resultant gas lines and short tempers. However, they also have demonstrated very adaptive travel behavior patterns. For example, at Mt. Bachelor in 1974 when the area was particularly hard hit with gasoline shortages, people consolidated their rides to cut cost. While gas escalated and it was not readily available, people continued to come to the winter sports resort. The number of people per car increased approximately 25 percent.

Utah State University conducted a survey in 1979 to assess the potential impact of higher gasoline prices on recreation travel. An opinion survey of households in six metropolitan centers, Chicago, Dallas-Fort Worth, Los Angeles, New York City, Phoenix, and Salt Lake City, was conducted. Fifteen hundred randomly selected households received questionnairs with 16 percent, or 237 individuals, responding. Subsequent contacts brough the usable data to 23.1 percent or 346 individuals participating. (Burke and Williams, Gasoline Prices and Availability: What Do they Mean for Tourism? May 1979.)

Although over half of the respondents indicated they did not intend to change their travel plans or reduce them, it is significant that 44 percent did intend to travel less for vacations. If gas were rationed or increased in price, respondents' strategies were to travel less frequently, travel closer to home and stay at a single location. In summary they found the cost of gasoline has a greater deterrent on total travel mileage than did rationing or limited availability of gasoline.

Energy constraints on outdoor recreation demands in the Pacific Northwest were evaluated by Robert Mealey and Milan Krukar and reported in their research paper of May 1980. They report the general public are expected to act differently under mandatory and market allocations. They document their assumptions used to estimate the impact of energy constraints on recreation demands in King and Snohomish counties in Washington State. Their intent was to provide the National Park Service with alternative "base cases" for evaluating effects of fuel supply limitations on recreation demands. Following is a brief resume of their findings which relates the effects of price versus rationing.

1. A comparison of price and elasticities suggest that price has a much greater inpact on recreation decisions. For example, a 10 percent price raise results in an 8 to 17 percent in decrease in various recreation demands. Whereas, to effect a similar degree of impact on recreation through rationing, it would be necessary to reduce supply 9 to 100 percent.

2. In rationing, people are less likely to change their basic travel preference. With assured supply, they will maintain their longer trip destinations. The greatest substitution will occur in response to pricing changes. Extreme decline in out of county day use activities will be reflected in rising prices and preferences will be for "close to home" recreation opportunities.

3. In pricing environment, recreation activities will change radically. Out of county recreation demands will become increasingly dominated by travel dependent activities such as camping, hunting, winter skiing, and snow activities. Out of county day use will diminish. In a rationing environment, people will tend to substitute day use activities for travel dependent activities.

4. In King and Snohomish Counties, a counterbalancing effect will probably take place as residents seek to recreate in their own back yard. Thus, higher energy prices may in effect substantially increase the level of day use in their counties.

Several public policies are implied by their conclusions: (a) Recreation demands will be very different than exist today. Investment priorities must focus on where and what kind of recreation investments are needed. (b) Recreation investment priorities must be made closer to population centers with emphasis on day use recreation activities (particularly true in a pricing environment). (c) To minimize the risk, recreation investments should be made in relatively priced inelastic demands.

Kurt Wehbring, Economist with David Dornbusch and Company, Inc., indicates the discretionary income may be more important than the price for gas. He attributes the high rate of increase in outdoor recreation and travel until recent years was partly attributable to the available discretionary income. If discretionary income decreases, there may be significant changes in travel and recreation behavior. One effect may be to reduce the amount of expensive travel, such as a trip to Europe or Hawaii. Others would be the substitution of less expensive recreation activity, e.g., "cross country skiing" for "down hill."

10. RECREATION LOSSES RELATED TO MOUNT ST. HELENS ERUPTION OF MAY 18, 1980 - GIFFORD PINCHOT NATIONAL FOREST.

Recreation - The St. Helens area accommodated more intensive recreation activity than any other portion on the Gifford Pinchot National Forest. Spirit Lake attracted thousands of tourists each year. In addition, the Mt. Margaret Backcountry, with its numerous lakes and trails, attracted backpackers and horse riding enthusiasts. In 1979, the planning unit provided an estimated 480,000 recreation visitor days for all activities. Lost was 184,000 visitor days of use at developed sites and 295,000 visitor days of dispersed use.

Development Recreation - The Forest Service operated a considerable number of developed recreation facilities. The following table lists developments and opportunities that were formerly available.

Recreation Sites Destroyed

Developed Sites Destroyed	*PAOT	1979 Annual **MRVD
Campgrounds - Vehicle Access		
Spirit Lake	620	64.9
Clearwater	170	6.7
Timberline	30	1.2
Studebaker	140	6.0
Ryan Lake	15	0.2
Campgrounds - Boat or Trail Access		
Donnybrock	60	6.1
Cedar Creek	60	6.1
Bear Cove	55	6.0
Picnic Grounds		
Spirit Lake	270	5.1
Others		
Duck Bay Boat Launch	250	5.8
Timberline Viewpoint	200	7.9
VIS Center/Spirit Lake	25	6.5
Organization Parking Lot	200	0.4
Timberline Winter Sports Area	1,500	30.3

Recreation Sites Destroyed

Backcountry Camps Trail Access

St. Helens Lake	25	
Grizzly Lake	15	
Obscurity Lake	15	
Panhandle Lake	25	
O'Conner Lake	10	
Venus Lake	15	
Boot Lake	10	
Ghost Lake	10	
Strawberry Lake	10	

Organization Sites Destroyed
Forest Service Permit

SW Washington YMCA	100	14.08
Longview Ski Club - Single Lodge	20	0.6
Mt. St. Helens Club - Large Cabin	20	1.1
Portland Girl Scouts	10	3.4
Portland Boy Scouts	160	10.7

Private Land Camps
and Lodges

Portland YMCA	100	
Harmony Falls Lodge	18	
Spirit Lake Lodge	12	
Mt. St. Helens Lodge	14	(Truman)
100 + Recreation Homes	500	

*Persons at One Time
**Thousand Recreation Visitor Days

Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum (ROS) and inventory system is an approach to outdoor planning which organizes activities and land conditions into a continuum of recreation opportunities. There are six classes in the ROS system ranging from "primitive" to "modern urban". The "primitive" class includes the most remote, undeveloped and inaccessible recreation opportunities; "modern urban" is the most developed, accessible, and convenience oriented experience available.

This table illustrates the current availability of the six ROS classes on National Forest land within the planning unit.

Recreation Opportunity Class	Acres
Primitive	50,110
Semi-Primitive Non-motorized	32,680
Semi-Primitive Motorized	640
Roaded Natural	64,600
Rural	0
Urban-Modern	0

It is expected that the demand for traditional types of recreation within the planning area will be modified by interest in volcano related activities, particularly interpretation of unique geologic features. This will produce a larger amount of day use and less overnight use.

Demand still exists for the types of activities which took place before May 18, 1980. Many of these, such as organization camping, cannot easily be accommodated within the planning area and will need to be located elsewhere.

An assessment of the post-eruptive recreation opportunities is underway. A plan will be developed based on an in-depth demand analysis. It will provide general development direction for planning public facilities (recreational and interpretive) visitor access, protection of unique natural resources, and private enterprise through special use permits.

Approximately 97 miles of trails were located in the blast damage area. These trails provided backcountry access for many dispersed recreation activities. Trails will continue to be an important part of the existing and future transportation system. New trails should be planned primarily to provide access to volcano features and viewpoints. Dispersed recreation opportunities still exist outside the blast area. The Boundary Trail, a National Recreation Trail, was partially destroyed where it traversed the Mt. Margaret Backcounty. It can be either relocated or re-established in the same location. (Source: Mount St. Helens Land Management Plan, January 1980)

A total of 244 camp units and 54 picnic units were lost in the blast which represents respectively an 18 percent and 34 percent loss of Gifford Pinchot National Forest facilities.

The following data was compiled by Kurt Wehbring, private consultant, representing David Dornbush Co., Inc., which is under contract to the U.S. Forest Service. The data was based on U.S. Forest Service RIM (resource inventory management system) data and discussions with Wayne Parsons, Gifford Pinchot National Forest Recreation Assistant. Table VI depicts the number of visitors, in thousands, that have visited the St. Helens Ranger District from 1969 to 1979. It shows relative growth in visitations by 18 activity classifications. Table VII shows perent of visitor days to St. Helens Ranger District.

Table VI - Number of Visitor Days to Mount St. Helens Ranger District
Gifford Pinchot National Forest
(figures in thousands)

	Year										Ranking of Activity
	1979	1978	1976	1975	1974	1973	1972	1971	1970	1969	
1. Viewing Outdoor Scenery	110.2	114.1	78.2	17.7	13.3	3.0	1.1	.4	.4	N/A	
2. Driving for Pleasure	130.6	135.6	59.0	38.9	40.8	30.5	42.3	10.1	11.5	78.3	2
3. Snowmobiling	13.6	14.7	14.2	14.7	10.9	7.5	7.4	2.1	.9	.9	
4. Boating	10.1	11.6	10.0	14.1	15.9	15.2	18.1	14.1	14.2	14.9	5
5. Hiking, Walking	33.1	34.3	17.1	15.7	13.5	11.6	5.9	3.6	6.3	18.3	4
6. Swimming	9.8	9.4	6.7	7.7	7.0	7.1	6.9	5.8	6.1	5.2	
7. Fishing	11.2	14.9	11.8	20.3	16.4	13.0	10.5	2.5	2.6	2.8	
8. Camping	117.2	114.5	84.8	93.8	88.0	95.1	75.6	69.3	78.4	80.5	1
9. Organization Camping	20.0	20.1	19.3	19.7	19.7	20.8	18.4	19.7	23.0	28.3	3
10. Picnicking	8.5	8.6	6.6	7.0	7.5	7.9	10.1	9.0	9.5	11.9	6
11. Skiing	13.0	9.8	1.2	1.0	.6	.6	.4	.2	.2	.2	
12. Snowplay	30.2	36.5	9.8	5.3	4.6	4.5	4.1	3.8	3.6	3.2	
13. Hunting	45.1	46.9	34.3	30.5	18.7	15.1	14.4	7.0	7.9	9.0	
14. Nature Study	11.3	12.3	10.0	10.4	8.7	5.1	4.7	4.3	4.3	2.6	
15. Mountain Climbing	7.8	7.1	5.1	5.3	3.8	2.5	1.4	1.1	1.3	1.5	
16. Gathering Forest Products	9.0	9.7	6.4	6.1	5.9	2.2	2.1	1.2	1.6	1.2	
17. Interpretation	18.6	19.7	13.8	11.0	9.1	7.1	3.6	3.2	3.5	2.8	
18. Other	3.1	3.7	2.9	3.2	4.0	3.5	3.7	2.1	3.8	5.0	
TOTAL	602.4	623.5	391.2	322.4	288.4	252.3	230.7	159.5	179.1	266.6	

Source: U.S. Forest Service - BIM Data, Consolidated by Kurt Wehbring, Consultant (Feb. 1981).

Table VII - Percent of Visitor Days to Mount St. Helens Ranger District
Gifford Pinchot National Forest

	Percent of Total Visitor Days										Comparison Total Visitor Days	
	1979	1978	1976	1975	1974	1973	1972	1971	1970	1969	1969	1979
1. Viewing Outdoor Scenery	18.3	18.3	20.0	5.5	4.6	1.2	.5	.3	.2	N/A	N/A	110.2
2. Driving for Pleasure	21.6	21.8	15.1	12.0	14.1	12.1	18.4	6.3	6.3	29.3	78.3	130.6
3. Snowmobiling	2.3	2.4	3.6	4.6	3.8	3.0	3.2	1.3	.5	.3	.9	13.6
4. Boating	1.7	1.8	2.3	4.3	4.6	4.9	7.8	8.8	7.7	5.5	14.9	10.1
5. Hiking, Walking	5.5	5.5	4.4	4.9	4.7	4.6	2.6	2.3	3.5	6.8	18.3	33.1
6. Swimming	1.6	1.5	1.7	2.4	2.4	2.8	3.0	3.6	3.4	1.9	5.2	9.8
7. Fishing	1.9	2.4	3.0	6.3	5.7	5.2	4.6	1.6	1.4	1.0	2.8	11.2
8. Camping	19.5	18.3	21.6	29.2	30.5	37.7	32.8	43.4	43.5	30.0	80.5	117.2
9. Organization Camping	3.4	3.2	5.0	6.2	6.8	8.3	8.0	12.4	12.7	10.5	28.3	20.0
10. Picnicking	1.4	1.4	1.7	2.2	2.6	3.1	4.4	5.6	5.3	4.4	11.9	8.5
11. Skiing	2.2	1.6	.3	.3	.2	.2	.2	.1	.1	.0	.2	13.0
12. Snowplay	5.0	5.9	2.5	1.6	1.6	1.7	1.8	2.4	2.0	1.2	3.2	30.2
13. Hunting	7.4	7.5	8.7	9.5	6.5	6.0	6.2	4.4	4.3	3.3	9.0	45.1
14. Nature Study	1.8	2.0	2.6	3.2	3.0	2.0	2.0	2.7	2.4	.9	2.6	11.3
15. Mountain Climbing	1.3	1.1	1.3	1.6	1.3	1.0	.6	.7	.7	.5	1.5	7.8
16. Gathering Forest Products	1.5	1.6	1.6	1.9	2.0	.9	.9	.8	.8	.4	1.2	9.0
17. Interpretation	3.0	3.1	3.5	3.4	3.1	2.8	1.4	2.0	1.7	.9	2.8	18.6
18. Other	.5	.6	.8	1.0	1.4	1.4	1.5	1.4	2.0	1.7	5.0	3.1
TOTAL	99.9	100.0	99.7	100.1	98.9	98.9	99.9	100.0	98.5	98.6	266.6	602.4

Source: U.S. Forest Service RIM Data Compiled by Kurt Hochrine, Consultant (Feb. 1981)

In terms of total thousands of visitor days use, only three activities were reported with less use in 1979 than in 1969; they were, boating, organization camping, and picnicking. Collectively they reflect a change of approximately 16,500 visitor days use. All other activities in 1979 exceeded 1969 levels. Table VIII shows the relationship of the six most important activities in 1979 to the six most important activities in 1979, both in terms of percent of activity and total visitor days.

Table VIII. Comparison of the Six Most Important Activities in 1979 versus 1969

1979			1969		
Activity	%	Visitor Days	Activity	%	Visitor Days
1. Driving for pleasure	21.6	130.6	1. Camping	30.0	80.5
2. Camping	19.5	117.2	2. Driving for pleasure	29.3	78.3
3. Viewing Outdoor Scenery	18.3	110.2	3. Organization Camping	10.5	28.3
4. Hunting	7.4	45.1	4. Hiking and Walking	6.8	18.3
5. Hiking and Walking	5.5	33.1	5. Boating	5.5	14.9
6. Snow Play	5.0	30.2	6. Picnicking	4.4	11.9

Of particular significance was the increase in viewing scenery, hunting, snow play, and skiing. Spirit basin was rapidly becoming a significant winter sports snow play area. The loss of this country will put demand elsewhere on the Forest.

11. RECREATION DISPLACEMENT.

General Information - Based on Forest closure and facilities and activities lost in the eruption, Forest users are searching out substitute facilities and locations. The nature of this substitution is subjective at this time as no comprehensive hard data is available. However, one can assume the general forest user will get as close to the geologic phenomenon as he is permitted and is considered safe. Thus, the first areas to be reoccupied will likely be the periphery of the National Forest.

As people seek out new areas, several factors are at play: (1) Economic consideration - cost of energy to get to new site, real income. (2) Their knowledge of suitable substitute areas. (3) Their perception of safety related to the active volcano. (4) Management initiatives to direct user. (5) Other substitutions such as indoor for outdoor activities.

Earlier discussions indicated the general economy in terms of tourism in the State of Washington is good and follows the National trends. While there was a net loss in personel income, and some falldown in the total tourism within the state, it was not a significant departure from past trends. Specific geographic areas were adversely affected for longer durations than others; e.g., Packwood, southwest Washington, and Yakima, Washington. The effects on travel behavior due to ashfall is illustrated in Table IX and X.

Table IX - Percent Change in Trip Purpose
by City During First Week of Ashfall

	Work			Shopping			Personal Business			Social			Outdoor Recreation		
	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased
Yakima	88	9	3	84	15	1	80	18	2	80	20	0	95	5	0
Spokane	72	21	7	85	14	1	84	16	0	80	20	0	88	12	0
Vancouver	34	64	2	57	43	0	53	47	0	63	37	0	85	14	1
		(n=211)			(n=246)			(n=237)			(n=235)			(n=226)	

Table X - Percent Change in Trip Purpose
by City During July 1980

	Work			Shopping			Personal Business			Social			Outdoor Recreation		
	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased	Reduced	No Change	Increased
Yakima	2	90	8	5	88	7	7	87	6	6	88	6	30	60	10
Spokane	10	83	7	15	80	5	14	83	3	10	81	9	21	65	14
Vancouver	7	90	3	10	82	8	11	82	7	13	84	3	42	55	3
		(n=214)			(n=245)			(n=238)			(n=238)			(n=222)	

Source: Portland State University (Oct. 1980) - Impacts of Volcanic Ashfall on Travel Behavior.

Focus group interviews in cities of Yakima, Spokane, and Vancouver, indicated outdoor recreation travel was reduced 85 to 95 percent the first week of the eruption and reduced from 21 percent to 42 percent during the month of June. The studies concluded that recreation travel behavior was affected negatively for the longest duration of the activities reviewed.

Vancouver interviews indicated substitute recreation was occurring south and west of Vancouver, as well as along the Columbia River gorge. A good number of residents in the Vancouver sample indicate that they normally used the Forest fairly heavy for day use activities, traveling north to northeast from Vancouver. Many said the proximity of Vancouver to the Gifford Pinchot National Forest was their prime reason for accepting work in this area.

Columbia River Gorge - Since the Columbia River gorge has diverse and attractive recreation amenities and is within one hour drive of Portland and Vancouver, it is a logical substitute area. Substitution of this nature would not impose an economic penalty on recreationists displaced from Mount St. Helens area in these respective communities.

Based on this assumption that the gorge would be a logical substitution area, data was collected at key recreation attractions and is displayed in Tables XI through XIII.

Table XI - Visitations to Washington State Parks - 1976-1980
Calendar Year Attendance

	Acres	Camp Sites	Picnic Sites	1980	1979	1978	1977	1976	Location
attle Ground	280	50	50	225,726	198,124 *	315,355	347,421	335,537	20 miles NE Vancouver, 3 miles E of Highway 503
eacon Rock		33	75	322,338	294,941	353,929	354,009	304,528	35 miles E Vancouver Highway 14
rooks Memorial	701	45	40	175,432	161,760	173,064	183,533	195,918	13 miles N Goldendale, Highway 97
orsethief Lake	338	14	35	96,761	117,440	101,243	83,176	66,156	17 miles E White Salmon, 28 miles W Goldendale, Highway 14
aryhill	98	50	50	170,148	195,232	156,725	293,321	262,889	12 miles S Goldendale, SR 14

Not reliable due to closure, construction, irregular attendance, etc.

ource: Washington State Parks, Jim Ellis (Jan. 1981)

Table XII - Visitation to Washington State Parks
1979 and 1980 Comparison by Months

	Battle Ground Lake	Beacon Rock	Brooks Memorial	Horsethief Lake	Mary-Hill
1980					
Jan	3,270	4,849	3,130	1,198	1,205
Feb	3,332	7,262	3,138	1,052	2,417
Mar	8,393	14,847	10,903	3,080	6,984
Apr	31,087	27,145	14,059	15,544	13,465
May	27,342	38,969	23,961	14,148	15,806
Jun	31,800	45,626	20,754	11,484	19,425
Jul	51,738	71,539	32,393	25,782	30,459
Aug	37,127	55,381	31,929	13,340	33,135
Sep	17,875	29,537	15,764	5,561	23,716
Oct	9,486	17,091	13,560	3,706	16,227
Nov	4,276	10,092	5,841	1,866	6,309
Total	225,726	322,338	175,432	96,761	170,148
1979					
Jan	4,302	5,446	284	380	1,556
Feb	3,443	7,443	0	15,708	15,831
Mar	10,273	21,509	4,138	5,672	11,597
Apr	30,088	27,601	12,145	15,618	11,571
May	25,448	35,359	19,816	11,924	17,651
Jun	26,228	36,586	20,540	18,676	26,577
Jul	41,093	50,146	26,523	25,966	35,094
Aug	28,200	49,531	29,642	12,590	35,932
Sep	17,702	30,212	21,602	5,664	19,360
Oct	7,223	20,633	19,378	2,844	14,144
Nov	4,124	10,475	7,692	2,398	5,919
Total	198,124	294,941	161,760	117,440	195,232

Source: Washington State Parks, Jim Ellis (February 1981)

Year	Total Visitation	% Change - 16 Sites Combined	Bonneville	The Dalles	John Day
1976	7,087,090	-26.9	1,703,515	341,331	469,738
1977	4,846,800	-31.6	1,055,300	381,300	581,200
1978	5,354,300	+10.5	1,556,400	276,300	570,200
1979	5,971,400	+11.5	1,896,400	368,800	623,100
1980	5,791,756	-4.0	2,025,200	278,600	617,800

Source: U.S. Corps of Engineers

Portland and Vancouver, specifically, Battle Ground, Beacon Rock, and Bonneville, showed significant increases over 1979 visitation data. However, sites further east and northeast, namely the Corps sites of John Day and the Dalles Dam, as well as Mary Hill State Park, indicated less visitation. The one exception was the Brooks Memorial State Park at Goldendale which showed an increase in visitation in 1980.

The increase in visitation may be more significant when one considers that several days of the normal recreation season were pre-empted by ash problems which eliminated nearly all recreation during these periods.

Packwood Ranger District - District Ranger Bill Truitt, Packwood Ranger District, Gifford Pinchot National Forest, reported that nearly 2 to 3 times the number of hunters used that portion of the Forest in 1980 compared to previous years. This increase can be attributed to the fact that approximately 900,000 acres of the Forest was closed and that the Packwood Ranger District was the only District open entirely to normal hunting.

While this information is subjective, it does indicate the response of the general public to seek out substitute locations. This substantial increase in hunting pressure in this area probably reflects economic considerations and hunter's territorial preferenc

Olympic National Forest - The Olympic National Forest reports significant increases in recreation use which they believe is, in part, the result of Mount St. Helens eruption and subsequent displacement. In a letter of December 10, 1980 to the Regional Forester, they indicated that the southeast corner of the Forest exploded in both developed and dispersed recreation visitations.

On the Forest, campground visitation at Hoodsport and Shelton Districts showed increases ranging from 4 percent to as much as 25 percent.

Based on key use areas, dispersed recreation increased from 5 percent to 100 percent. The greatest percent of increase was in th backcounty.

While there is no way to know how much of this increased use is attributable to Mount St. Helens directly, Forest recreation guards reported a significant amount of the increase was due to displacement by Mount St. Helens based on their discussions with th general public.

Similar increases were noticed in other agency visitation rates, specifically Olympic National Park in their southeast subarea, use was up as much as 105 percent. Overall visitation to the Olympic National Park was up approximately 20 percent. Lake Cushman State Park, during the same monthly periods, use was up between 73 and 13 percent.

on the Columbia River Gorge Ranger District, reported that visitations to developed sites increased to 125,000 visitor days, up 12,000 over 1979 statistics. These visitations occurred in 11 sites that are tributary to the gorge. Generally, campground and picnic sites west of Bonneville Dam within a one hour travel distance of Portland, showed significant increases while facilities east of this location generally were down. Similar patterns of use were documented on the Washington side of the Columbia River.

Multnomah Falls, which lies between Bonneville Dam and Portland, showed significant increases in visitations from a 1979 level of 53,500 to 66,600 in 1980. This represents approximately a 25 percent increase. It is also important to note that this particular site is a major attraction that draws between 1-1/2 and 2 million people annually.

Wahkeenta Falls lies on the scenic highway approximately 1/2 mile west of Multnomah Falls. Visitation for 1979 was 6,600 versus 1980 visitation of 7,800 for an increase of approximately 20 percent.

Dispersed recreation showed approximately 25 percent decrease compared to 1979. Visitation data indicate 400,000 people participated in dispersed recreation compared to 513,000 the preceding year. Some of this decrease may be attributable to sampling techniques. However, discussions with Mr. Summers indicate a lot of people felt the gorge area was adversely affected by the volcano and did not use areas they would normally utilize.

Recreation guards at Multnomah Falls reported many users indicated they were coming to that site for the first time because their normal recreation area, Mount St. Helens, was unavailable to them.

12. VOLCANO RELATED VISITATIONS.

Immediately after the March 27 eruption, Forest personnel began planning for visitor information and interpretation services. Personnel surveyed potential sites which provided safe viewing distances for the general public.

Emphasis was placed on providing the public with good information, increasing their awareness of the safety hazards involved, and increasing their understanding and interest. The initial interpretive work was done at Yale Reservoir under an agreement with Pacific Power and Light who administers the boat launch site adjacent to Highway 503. Fact sheets were developed and a small trailer with exhibits was placed at the boat launch site at Yale. A Forest information officer gave tourists the most recent information available. U.S. Geological Survey personnel assisted with the Forest with information and hazard updates. This site was operational in April of 1980.

The May 18 event generated immediate need for a volcanic interpretive facility at a distance that would assure public safety. A team of Forest visitor information specialists, with technical assistance of U.S. Geological Survey personnel, developed exhibits for two centers; Ridgefield on Highway I-5 and Lewis and Clark Visitor Center near Highway 12. A cooperative agreement was developed with the State Park to utilize the Lewis and Clark site.

Ridgefield Center was opened on July 4, 1980, while the Lewis and Clark center opened July 12, 1980. These facilities were manned with Forest Service personnel and volunteers.

Summary of visitation to these sites was developed and analyzed by Kurt Wehbring of David M. Dornbush and Company, Inc. This information is graphically displayed in Figure 1. The Ridgefield site is immediately adjacent to Highway I-5 and is readily acessible. Lewis and Clark Center is approximately 1.5 miles from Highway 12 which receives significantly less traffic volume.

Nearly 500,000 visitors have utilized these two centers, indicating public interest is very high in the volcano. Approximately 50 percent of the total visitors are residents of Washington and/or Oregon. California contributes about 18 percent, while other U.S. areas contribute approximately 28 percent. International representation, including Canada, amounts to approximately 8 percent of the total. (Refer to Tables XIV through XVI).

Figure 1

VISITORS AT MT. ST. HELENS VISITOR INFORMATION CENTERS

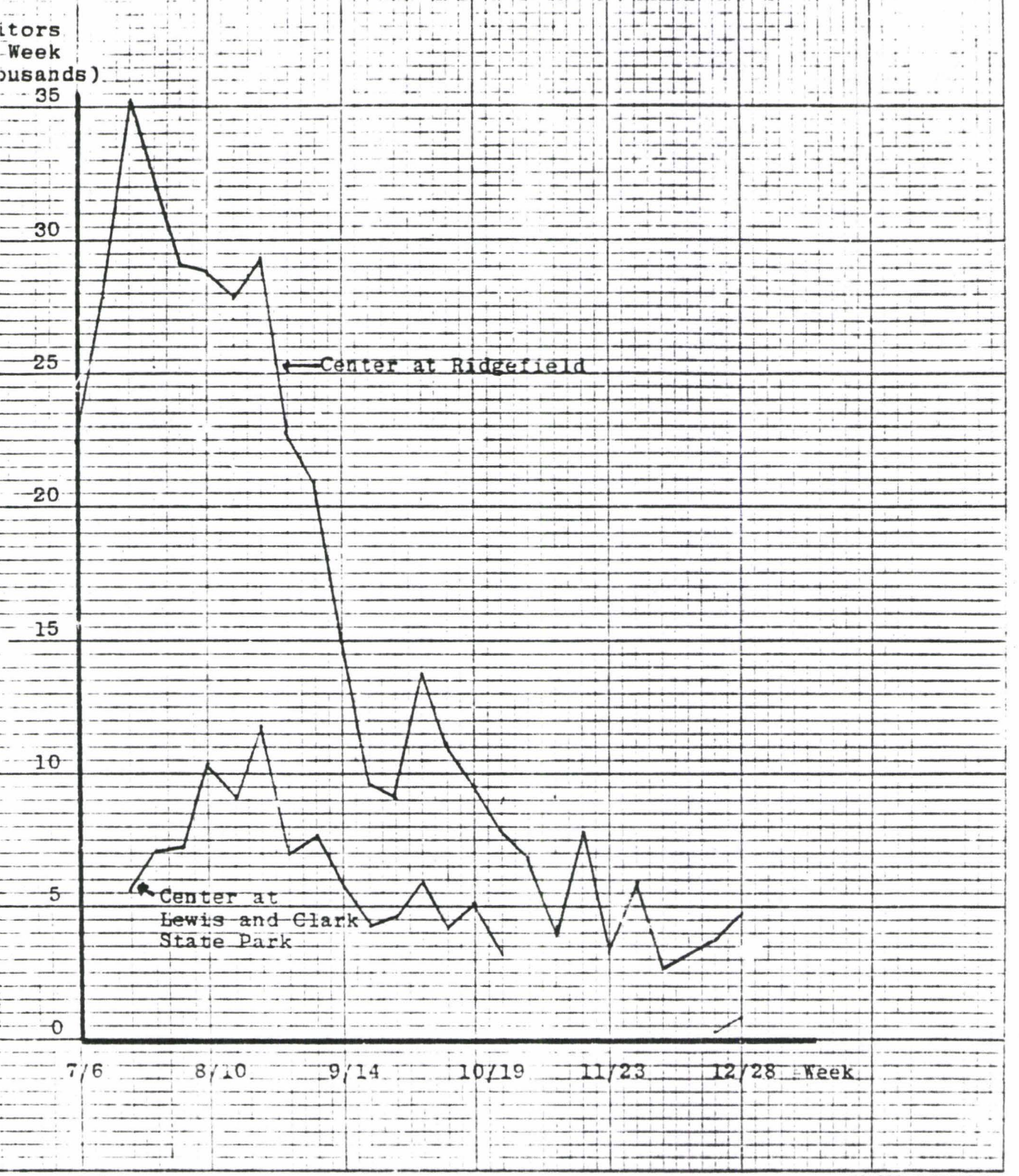

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Table XIV - Visitors at Mount St. Helens
Visitor Information Centers (1980)

Week Ending	Center at Ridgefield	Center at Lewis and Clark State Park	
7/6	22,500	--	
7/13	28,007	2,000	(2 day)
7/20	35,081	5,522	
7/27	25,131	7,134	
8/3	29,062	7,302	
8/10	28,785	10,449	
8/17	27,834	9,128	
8/24	29,400	11,825	
8/31	22,791	7,032	
9/7	20,844	7,714	
9/14	14,994	5,756	
9/21	9,776	4,331	
9/28	9,525	4,683	
10/5	13,634	5,903	
10/12	11,000	4,130	
10/19	9,502	5,076	
10/26	7,817	3,150	
11/2	7,400	--	
11/9	3,748	--	
11/16	7,717	--	
11/23	3,116	--	
11/30	5,933	--	
12/7	2,570	--	
12/14	3,314	60	(2 days)
12/21	3,738	259	
12/28	4,809	851	
Total	368,028	102,355	

Source: U.S. Forest Service, Gifford Pinchot National Forest

Notes: The center at Ridgefield was opened on July 4, 1980. The center at Lewis and Clark State Park was opened July 12, 1980, closed on October 27, and reopened December 6, 1980.

Table XV - Origin of Visitors
to Mount St. Helens Visitor Information Center,
Ridgefield, Washington

Place of Origin	Time Period (Percent of Total Visits)			
	7/4-11	7/20-28	9/14-10/3	10/29-12/19
Portland-Vancouver Metropolitan Area	20	12	15	16
Other Oregon	7	11	7	15
Total Oregon*	27	23	22	31
Seattle-Tacoma Metropolitan Area	9	8	6	7
Other Washington	14	11	10	14
Total Washington	23	19	16	21
California	17	20	20	16
West	7	9	11	8
Midwest	6	7	11	8
East	6	5	5	5
South	7	7	7	4
Total Other U.S.	26	28	34	25
International	7	10	8	7
TOTAL	100	100	100	100

Source: U.S. Forest Service, 1:5 sample of visitor log.

*Includes Clark County, Washington as part of the Portland-Vancouver Metropolitan Area.

Table XVI - Origin of Visitors
to Mount St. Helens Visitor Information Center,
Lewis and Clark State Park, Washington

Place of Origin	Time Period (Percent of Total Visits) 7/12-8/7	8/8-26	8/29-9/11	10/7-1/4
Portland-Vancouver Metropolitan Area	4	3	2	2
Other Oregon	6	6	9	7
Total Oregon*	10	9	11	9
Seattle-Tacoma Metropolitan Area	9	11	8	16
Other Washington	34	24	29	28
Total Washington	43	33	37	44
California	11	16	16	14
West	6	7	7	6
Midwest	10	12	10	8
East	6	6	6	5
South	5	5	3	4
Total Other U.S.	38	46	42	37
International	9	10	10	10
TOTAL	100	100	100	100

Source: U.S. Forest Service

*Includes Clark County, Washington as part of the Portland-Vancouver Metropolitan Area.

David Dornbush and his associates indicate there are a lot of variables in determining the future demands related to volcano interest. While their final report is not available at this time, preliminary work indicates that visitations will be from 1/2 to 1-1/2 million visitors annually. They have utilized Forest statistical information at the two current visitor centers, as well as made comparison of visitor and visitor growth rates to other volcanic places, such as Hawaiian Volcano National Park.

13. INTERIM MEASURES PLANNED TO DEAL WITH RECREATION DISPLACEMENT

VOLCANO RELATED

Initial Efforts: Ridgefield Visitor Center was the first major site and opened July 4, 1980. Displays including large black and white photo murals, a video tape and seismograph interpreted the St. Helens/Spirit Lake and other affected areas before, during and after the eruption. The location was on private land that had first been used as a viewpoint by the State Highway Department. A lease was negotiated with the landowner and the county permit obtained. Estimated cost for setting up the program with the original double-wide trailers was approximately $35,000, not including salaries of personnel. This site was the heavier used of the two with 6-8,000 people visiting on some weekends.

Lewis and Clark Visitor Center opened a week after Ridgefield on July 12, 1980. The delay was primarily due to problems in getting the parking lot ready due to a high water table. A cooperative agreement was worked out with the state parks department to use the site. The Washington National Guard was used to build the road access and do preliminary work on the parking lot. The balance was done by the Forest road crew. Displays and facilities were basically the same as at Ridgefield except the view of the mountain was from the northwest rather than the southwest. Costs were also basically the same except an additional $5,000 was needed to get the parking lot in shape because of the water problem.

The most popular handout at the centers is the colored Mount St. Helens brochure developed in conjunction with the Forest Service Regional Office in Portland. Fact sheets are developed and updated periodically. Books on volcano related subjects and other public interests are sold through the National Park Association.

1981 Plans: Lewis and Clark was the first facility to be enlarged. It was closed the latter part of October and re-opened in mid-December. A modular construction building of approximately 2,500 square feet replaced the trailer. It has attractive cedar siding outside and paneling inside with a large wooden deck. Cost for the building was $72,000. New panels are being developed by center personnel as time permits. The parking lot was upgraded and expanded a little during the changeover.

Ridgefield closed down the first week of January and opened again February 14. Facilities are basically the same as Lewis and Clark except larger. It includes a theater annex which brings its total size to about 3,000 square feet. Displays are the same as what were in the trailer. A wide-screen video is provided for the theater. The theater also has a projection room because of the demand and use by school groups. Cost of the building was $94,000.

A contract was issued to a firm to develop new displays for each center. If funds are available, new displays will be constructed by July.

Additional centers may be provided on 503 and 504 as money permits. Cooperative opportunities may exist.

Education Materials

Teacher Training Packets - materials have been developed and are distributed to teachers when requested. They cover a variety of materials about the mountain--before, during, and after.

Visitor Center information packets are being developed to distribute to teachers who will bring their classroom to the centers. They include prework, activities to be done at the center, as well as post work.

A slide program was developed by the Forest Service Regional Office. It contains 80 slides of before, during, and after the eruption and has a typed narrative. It can be purchased in Portland by those interested.

A map developed by Forest Service, Geological Survey, and Department of Natural Resources should be available in March. Topographic features caused by the eruption are highlighted on one side. The reverse side will be interpretive.

A 16 MM, 20 minute movie is being developed by a contractor for the Forest Service. It will be a documentary of the mountain and should be available by June, if not sooner.

The Forest will continue to work with counterparts at County, State, Federal, and Private levels to explore ways to enhance interpretive and educational opportunities.

TRADITIONAL DISPLACEMENT

Facilities/Activities. The current volcanic activity precludes any investment in the Forest Red or Blue Zones due to public safety considerations. Thus, in developing this interim plan for displaced traditional recreation use, the outer perimeter of the National Forest farthest from the volcano provides the best opportunity for development and activities in terms of public safety.

Also, the outer perimeter is the most cost effective zone in terms of travel investment for the Forest user, as well as administrative cost for maintenance of facilities. Theoretically, at least, the outer perimeter would be less affected by high fuel costs relative to campsites deep within the Forest boundary. The use of the Columbia River gorge as a substitute recreation area, seems to support this contention.

In analyzing interim proposals, the following issues were the driving force:

1. Public Safety - Any facility/activity expansion would have to be in a safe location relative to the existing or potential direct effects of the volcano. The Forest closure will need to expand and contract relative to the potential geologic hazards (the Forest closure has varied from approximately 1 million acres to its current size of approximately 500,000 acres, effective February 1981).

2. Replacement of Lost Recreation Facilities/Activities - For all practical purposes, the St. Helens Ranger District is out of the traditional recreation business and will be so until the volcano is less active. Adjacent Ranger Districts will need to handle the recreation displacement.

Key activities lost were driving for pleasure, camping, viewing of scenery, hunting, hiking, and snow play. The State SCORP Plan for Zones 5 and 6 recognize the importance of these facilities/activities prior to the eruption. Skamania County questionnaire also shows local residents' interest in increased hiking, camping, and fishing.

3. Relation to On-going Processes - Expanding facilities at existing sites not affected by the volcano, is the most logical alternative at this time as an interim measure. These sites will not be affected by the land use planning process currently underway.

No interim measures are planned within the Mount St. Helens unit due to geologic hazards as well as the fact the area is undergoing intensive land use planning and public review. Information developed by recreation consultants such as the hierarchy of visitor interpretor sites, unique geologic attractions and activities, visual assessment, and selection of probable recreation travel corridors, have been considered in determining which sites should be expanded.

4. Emphasis is being placed on Facilities and Sites closer to Population Centers - Facilities with the longest season of use are more attractive investments. Site selection should complement the recreation and tourist task force groups' efforts.

5. Site Planning - Another major consideration in analyzing which sites should be expanded was the existence of completed site plans.

Evaluation Process - the Koepnor-Tragoe (K-T) decision process was utilized in determining which campgrounds would best meet overall Forest objectives. Selection criteria were developed and a normative group process was utilized to determine their relative values and weights.

Since each criteria was not considered of equal importance, they were weighted to illustrate their relative value and given a score of 1 to 10. For example, variety of recreation opportunities available, was considered the most important criteria and was given a rating scope of 10, while completed site plans was considered the least important criteria and was given a rating score of 1.

Each campground was tested against the criteria to determine the relative value in satisfying each of the ten criteria utilized. The ranking score of 10 indicates the campsite best meets the criteria while a 1 ranking indicates it least satisfies the criteria.

Government Mineral Springs, for example, received a 10 ranking score for best satisfying a variety of recreation opportunities available criteria. Thus, multiplying the ranking score times the weighted score gives the relative value of the site in achieving the criteria.

Aggregating these scores for each criteria gives an indication as to the best choice relative to each campground opportunity.

Rankings were done in two groups: group A were facilities where large recreation complex and expansion were possible, while group B represented sites with lesser expansion opportunities. Table No. XVII is the Decision Matrix for evaluation of which sites should be enlarged or improved.

Table XVII - Decision Matrix
Recreation Sites to be Enlarged or Improved
Koepner-Tragoe Model

Campground (Alternatives)	Increase in PAOT (Potential)	Length of Season -Days-	Priority	*Combined Score Add -S Columns	Weighted Score / Criteria	7 Low Elevation Long Season		9 Near Population Centers Energy Savings		6 Water Activities		3 Group Opportunities		2 Winter Activities		8 Volcano Access Corridors		5 Fee Site		1 Site Plans		4 No San. - Water Prob.		10 Variety of Activities	
						R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S
Group (A) - (Large Complex)																									
Ma Wis Wis	100	120	4	294		8	56	5	45	9	54	1	3	1	2	6	48			10	10	4	16	6	60
Iron Creek	1000	135	2	362		9	63	6	54	10	60	10	30	1	2	10	80			1	1	8	32	4	40
Government Mineral Springs	750	150	1	422		10	70	10	90	8	48	9	27	1	2	9	72			1	1	3	12	10	100
Peterson Prairie	350	120	3	304		8	56	8	72	0	0	5	15	10	20	4	32			5	5	6	24	8	80
Group (B)																									
Takhlakh	35	75	8	274		1	7	2	18	10	60	1	3	1	2	2	16	8	40	10	10	7	28	9	90
Adams Fork	35	120	10	213		7	49	3	27	5	30	1	3	1	2	5	40	-	-	10	10	8	32	2	20
Blue Lake	15	120	7	276		7	49	4	36	3	18	1	3	1	2	6	48	-	-	10	10	10	40	7	70
North Fork	65	135	5	310		8	56	5	45	5	30	1	3	1	2	7	56	10	50	10	10	7	28	3	30
Tower Rock	65	130	6	288		8	56	6	54	5	30	4	12	1	2	8	64	-	-	10	10	10	40	2	20
Beaver	90	120	1	414		7	49	9	81	7	42	10	30	1	2	10	80	10	50	10	10	10	40	3	30
Sunset	210	165	3	385		10	70	10	90	8	48	9	27	1	2	0	0	8	40	10	10	7	28	7	70
Panther Creek	70	120	2	400		7	49	9	81	4	24	9	27	1	2	8	64	8	40	9	9	6	24	8	80
Red Lane Rd	( )	120	9	269		5	35	3	27	1	6	10	30	1	2	10	80	-	-	1	1	7	28	6	60
Ice Cave	35	150	12	184		9	45	4	36	1	6	1	3	3	6	4	32	-	-	4	4	8	32	2	20
Silicum	-	105	11	231		4	28	3	27	1	6	1	3	1	2	4	32	10	50	7	7	4	16	6	60
Paradise	75	120	4	385		7	49	9	81	7	42	1	3	1	2	10	80	10	50	10	10	7	28	4	40

Source: Gifford Pinchot National Forest (January 1981)

In summary, the current priorities for expansion of major recreation complex sites, group A, would be in the following order: (1) Government Mineral Springs, 150 units, 1,150 PAOT; (2) Iron Creek, 200 units, 1,000 PAOT; (3) Peterson Prairie, 70 units, 350 PAOT; (4) La Wis Wis, 20 units, 100 PAOT. Listed below are the first six priorities for group B:

1. Beaver, 18 units, 90 PAOT.
2. Panther, 4 units, 70 PAOT.
3. Sunset, 42 units, 210 PAOT.
4. Paradise, 15 units, 75 PAOT.
5. North Fork #5, 13 units, 65 PAOT.
6. Tower Rock, 13 units, 65 PAOT.

A major horse facility is planned at Panther Creek which will increase the current camp site capacity by 24 units; thus the combined increase at Panther would be 28 units, or 120 PAOT.

Skamania County Commissioners have indicated their interest in developing Grant Lake which is just off Highway 14 near Stevenson, Washington, in the Columbia River gorge. This site should be re-evaluated as soon as a recreation composite plan can be developed. Refer to Map 2 in the Appendix which illustrates (1) the current closure boundaries, (2) recreation facilities that are open to the general public, (3) expansion possibilities, (4) major access corridors, and (5) potential roadside scenic viewpoints.

14. TRAFFIC MANAGEMENT.

Timber Harvest Volumes - Close coordination will be necessary between salvage operation and recreation activities. This section deals with anticipated impacts related to traffic flows and road management actions.

Assessing the traffic volumes is, at best, subjective and requires making assumptions as to probable flows and requires assumptions about the National lumber market, historic timber volume traffic flows, probable bidders, anticipated appraisal routes, and probable timber harvest flows.

Basic Assumptions -

1. Timber operators make maximum use of the logging season. Thus, we anticipate activities as early as April and running through the end of November, depending upon weather conditions.

2. The general timber market will remain depressed during the 1981 calendar year. Indications are apparent that the 1981 timber market trends are likely to follow that of 1980. In 1980, the Forest harvested approximately 260 million board feet, down considerably from the normal 400 million plus board feet that are annually harvested on this Forest. The current recession is likely to continue and will reduce the number of housing starts throughout the Nation. This is likely to continue until such time as interest rates on borrowing are substantially reduced.

Assuming this trend follows the 1980 one, most road systems not directly connected with the volcano salvage program will be able to accommodate mixed traffic without serious hazard or impact. Thus, Mt. Adams, Packwood Ranger Districts, and most of Wind River, are not likely to have conflicts with recreation flows. In the salvage area, routes 125 and 115 on Randle Ranger District, route N90 on the St. Helens Ranger District, and route 73 on the Wind River Ranger District, will have substantially increased timber volumes for the next three years.

Overlays have been developed to illustrate the nature and timing of this timber flow. Following is a brief resume of the scope and timing of the timber salvage volume:

Comparisons of St. Helens Salvage Volumes and Estimated Flows

	Volume in Millions of Board Feet		
	Pre-eruption	One Year	Three-Year Totals
Packwood Ranger District			
Road 115	0-5	40-50	100-150
125 (N)	5-10	00	100-150
St. Helens			
Road N83	--	--	100
Road 125 (S)	10-15	70-80	200-250
Road N90 (W)	20-30	40	150
503	30+	40	150
N92	10-15	--	--
Wind River			
Road 73 (S)	30-40	35	125

Note: In addition to the above estimate on National Forest land, approximatly 24 million board feet of private volume is tributary to route N83 thence route 503 on the St. Helens Ranger District. Some 35 million board feet of private timber is tributary to route 115 on the Packwood Ranger District. Refer to Table XVIII - Traffic Analysis.

Table XVIII - Traffic Analysis - 1979 Actual
with Projected Traffic for 1981

SITE #	ROAD #	TOTAL COUNT	SADT	LOG	LOG ASC	REC	USFS	COMMENTS
360	N714	1,811	66.36	235	145	1,286	145	No projection
Proj. 81	N714	(--)	(--)	(--)	(--)	(--)	(--)	Blue Zone
801	N420	19,796	119.28	1,980	396	12,471	4,949	Wind River
Proj. 81	N420	(18,750)	(89.29)	(1,000)	(150)	(12,600)	(5,000)	Berrypicking
146	N54	3,342	49.11	1,335	83	5,255	1,668	Wind River
Proj. 81	N54	(10,657)	(50.75)	(1,500)	(300)	(7,357)	(1,500)	Volcano
506	N56	4,137	33.55	1,655	621	1,448	413	Wind River
Proj. 81	N56	(4,743)	(22.59)	(1,360	(270)	(2,700)	(413)	Firewood-berrypicking
601	N605	16,671	79.32	5,335	1,333	7,502	2,501	Wind River
Proj. 81	N605	(13,077)	(62.27)	(3,000)	(600)	(9,377)	(100)	Volcano & berries
103	125	75,050	314.13	16,511	19,513	33,772	5,254	Randle
Proj. 81	125	(54,851)	(261.20)	(9,100)	(3,640)	(37,111)	(5,000)	Rec. to Iron Creek Only
250	123	65,655	575.10	32,171	6,566	19,040	7,878	Randle
Proj. 81	123	(78,768)	(375.09)	(32,000)	(6,400)	(32,368)	(8,000)	
001	N84	19,417	122.89	2,913	1,553	12,038	2,91[illegible]	Mt. Adams
Proj. 81	N84	(51,600)	(245.71)	(8,000)	(1,600)	(38,500)	(3,50[illegible])	Closed-Bridge Const.
900	N90	6,392	45.01	511	192	4,666	1,023	Mt. Adams
Proj. 81	N90	(17,798)	(84.75)	(1,500)	(300)	(13,998)	(2,000)	Const. Completed
508	N88	35,389	173.51	2,831	1,062	25,834	5,662	Mt. Adams
Proj. 81	N88	(52,259)	(168.51)	(3,000)	(600)	(43,659)	(5,000)	Volcano
351	N73	9,705	71.43	766	291	7,085	1,553	Mt. Adams
Proj. 81	N73	(35,800)	(170.48)	(4,000)	(800)	(29,000)	(2,000)	Volcano
183	N818	8,897	66.87	116	57	8,324	200	St. Helens
Proj. 81	N818	( )	( )	(0)	(0)	(16,600)	(300)	Volcano
802	N73	43,562	190.26	5,663	3,485	30,929	3,485	Wind River
Proj. 81	N73	(59,684)	(284.21)	(8,000)	(1,600)	(46,084)	(4,000)	Volcano

Vista Points - In conjunction with the recreation tourism task group work, the Forest has inventoried numerous road viewpoints that afford a good view of the mountain and/or interpretive opportunities.

District Ranger staffs have evaluated potential view sites. The intent is to direct the general tourist to safe viewing areas which afford a quality view of Mount St. Helens on road routes that do not seriously conflict with timber harvest traffic.

15. POTENTIAL FACILITY EXPANSIONS (All Agencies):

The recreation task and tourism group is currently assessing projects that they are likely to develop in the next five years. Consequently, the following listing is only a part of the total picture. Completion of the recreation and tourism task force assessment will provide a much better perspective of future plans.

Listed below are planned facilities which have been discussed with agencies or institutions:

1. Corps of Engineers - facilities in the Columbia River gorge. The following plans were confirmed with Steve Stevenson, Landscape Architect, Corps of Engineers, Portland, Oregon.

A. Home Valley. This is a cooperative project with the State of Washington. Some 50 overnight camping units will be involved. There will be a central water system with a trailer dump site. A large, open grassy area for free play and swimming will be available and include appproximately 30 picnic sites. The facilities will be designed to handle seasonal overflow fishing demands.

B. Bonneville Dam (Washington State side): (1) Bradford Island. Interpretive facilities will be provided at this location. It will include fish viewing areas, powerhouse displays and discussions on the Columbia River system and fish migration. (2) New visitor information center on the Washington side as part of the second powerhouse addition. This new facility will provide a fish viewing station, plus exhibits. It is estimated that the visitor center will draw som 450 thousand visitors per year. This site will be linked to the Bradford Island site so that tourists can take a bus shuttle or some special travel conveyance to go between the Washington and Oregon sides. (3) The Hamilton Island area draws tremendous fishing demands seasonally. Approximately 75 picnic sites will be developed, along with parking capacity for about 300 vehicles. A boat launch site is also contemplated. (4) Cascade Site. Historical interpretation will be done at this location and trails developed to tie with Fort Bonneville. Bike trails are being planned. (5) General comment. At this time, the Corps does not plan to expand facilities on the Oregon side. Most of their efforts will be in rehabilitation and landscaping of existing projects. (Master Plan, Design Memo No. 18, Revised December 1974 - Bonneville Lock and Dam.)

2. Pacific Power and Light (PP&L) - Mr. Carothers indicated there are nine recreation facilities along their reservoir complexes which include three major campgrounds, accounting for 210 camping units, and six day-use areas. The visitations to these sites amount to 400 to 450 thousand visitors annually.

The Merwin project site will require additional facilities by 1985. The upper end of Merwin Reservoir at Crest Bay, is a site planned for expansion. It would include 78 camping units, large day use

area, boat moorage, and two large group camping areas. Mr. Carothers stated that tent camping was increasing on the Lewis River and relates this to better technology in camping gear and the increase in fuel costs.

3. Lewis County PUD Project/Cowlitz River Dam - Mr. Talitch, consultant for Lewis County PUD, stated the environmental assessment for this project is in its final review phase. The project is to start construction in 1983 and be completed by 1985, at which time the reservoir behind the new dam will be filled. The campground is located approximately 5 miles east of the confluence of the Cispus and Cowlitz Rivers and will be on the north side of the Cowlitz River. It will contain 50-60 camping units, along with 75 day use facilities. Trails, parking, field games, and four boat launch sites are planned. Ultimately, the capacity of this site can be expanded to 100 total camping units and approximately 200 day use facilities.

4. Currently there are exhibit Rs (recreation development plans) on Riffe and Mayfield reservoirs.

5. Forest Service facilities in the Columbia River gorge area:

A. Washington - Gifford Pinchot National Forest is planning to complete final 14 miles of the Pacific Crest Trail near the Bridge of the Gods (from Table Rock south to the Bridge of the Gods). Rights-of-way are being sought and plans are to develop a small trailhead facility large enough to accommodate approximately 20 vehicles. This trailhead will have horse loading and unloading facilities. It is likely that this facility would be constructed within the next five years, depending on budget allocations.

B. Oregon Side - Mt. Hood National Forest facilities to be constructed FY 1981:

(1) Wyeth Campground - 17 individual campsites will be added at this location, plus three large group camping areas.

(2) Parking facilities will be improved at Multnomah Falls as a pedestrian plaza is planned.

(3) A 14 unit trailhead is planned at Cascade Locks adjacent to the Bridge of the Gods.

(4) Several miles of trails are planned for construction under a cooperative agreement with the Oregon Equestian Trails Horse Group.

6. Private enterprises considering expansion in the next few years in the Columbia River Gorge area:

A. Carson Hot Springs - last year, 20 recreation vehicle unit parking spots were established adjacent to Carson Hot Springs. Possible expansion of these facilities is considered on the Wind River, adjacent to the springs.

B. Moffitt Hot Springs has excellent potential for increased recreation capacity. The old facilities have been removed and a new owner is planning to develop the site. Planning officials from the city of North Bonneville have indicated the new owner is desirous of developing camping facilities near the hot springs. This location is a short distance from the Pacific Crest Trail. Horse facilities have been considered also. It is likely in the next five years some type of camping facilities will be developed commercially at this location.

C. Recreation facilities are being considered adjacent to the Wind River road near the Wind River logging site and present commercial trout pond.

7. Skamania County is in the process of acquiring 18 acres on the Wind River which they plan to develop for overnight and day use activities (near Detour Road).

16. CONSULTATIONS:

Interviews and Phone Contacts -

1. City of North Bonneville
   Pollard Dickson, City Planner
   John Granholm, City Planner

2. David Dornbusch & Company, Inc.
   Doug Macy, Landscape Architect (Recreation Assessment)
   Kurt Wehbring, Economist (Recreation Assessment)
   Ken Kierly, Plant Ecologist (Recreation Assessment)

3. Pacific Northwest River Basins Commission
   Richard Ross, Stewards of the River Program
   Bob Mealey, Data Systems - Energy Constraints

4. Pacific Power and Light
   Lee Carothers, Use and Facilities

5. Portland State University
   Bill Rabiega) Travel Behavior
   Tom Behring) Related to Volcanic
   Ken Dueker) Ash - Recreation Displacement
   Linda Robinson

6. Skamania County
   Bryan Snell, Parks and Recreation - Facilities - Needs

7. U.S. Army Corps of Engineers
   Steve Stevens, Planner - Rec. Plans
   Becky Berson, Planner - Data Collection

8. U.S. Forest Service
   Gifford Pinchot National Forest
   Wayne Parsons, Recreation - Data Evaluation-Analysis
   Dave Porter, Recreation - Data Evaluation-Analysis
   Ed Gililland, Engineering - Facilities-O&M
   Clarence Petty, Engineering - Traffic Management
   Lee Collett, Engineering - Transportation Systems
   Roger Hamilton, Timber Management - Sales Admin.
   Ken Johnson, District Ranger - Displacement
   Harold Lange, District Ranger - Displacement
   Larry Lunde, Resource Assistant - Displacement

   Mt. Hood National Forest
   Don Vaughan, Recreation Staff Officer - Rec. Displacement
   Gene Zimmerman, Columbia River Gorge - Rec. Displacement
   David Summers, Resource Asst. - Rec. Displacement

Olympic National Forest
Bob Burns, Recreation Staff Officer, Rec. Displacement

9. Washington Columbia River Gorge Commission
Jeff Breckel, Director, Gorge Needs

10. Washington State Commerce and Economic Development
Scott MacCreaty, Tourist and Mount St. Helens Research

11. Washington State Department of Transportation
Chris Gupta, Tourism and Travel
Tom Maquire, Studies - Pricing

12. Washington State Parks Division
Tom France, Chairman, Rec. and Tourism Task Group
Jim Ellis, Rec. and Tourism Task Group